

Application Serial No.: 09/917,649
Amdt. dated May 14, 2003
Reply to Office Action of Jan. 14, 2003

Docket No.: N.C. 79,856
Applicant: Mark J. Feldstein

REMARKS

Reconsideration of the above-identified application is respectfully requested. Claim 29 remains in this application and has been amended to be written in independent form. This amendment does not affect the scope of the claimed invention. Claims 1-16 and 21-28 have been canceled.

I. Rejection under 35 U.S.C. § 103(a) based on Brody

Claims 1-10, 21-22, and 26-29 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,726,404 to Brody. The examiner asserted that it "would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a switchable pressure source including a vacuum source coupled to the primary channel (P2) and a switchable pressure source coupled to atmosphere to first (P1) and second (P3) reservoirs in order to provide $P1 > P2$ to cause flow from the first reservoir to the 'primary channel' as taught by Brody." Additionally, the examiner asserted that it "would have been obvious to switch the pressure source coupled to the second reservoir (P3) away from vent, thereby sealing it, in accordance with equation 2. With respect to claim 29, the Examiner stated that "microfluidic channels have minimal cross-sectional areas."

Claims 1-28 are canceled, so only claim 29 will be discussed. Applicants respectfully submit that claim 29 is not obvious over Brody. To establish a prima facie case of obviousness, all the claim limitations must be taught or suggested by the Prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1979); M.P.E.P. 2143.03. A reference that teaches away from the claimed invention undermines its value as prior art in an obviousness rejection. See generally *In re Sponnoble*, 405 F.2d 578, 587 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256 (C.C.P.A. 1963). A reference

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teaches away "when a person of ordinary skill, upon reading the reference, could be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). In this case, Applicants respectfully submit that Brody does not teach or suggest all the limitations of claim 29 and Brody teaches away from the claimed invention.

Claim 29 states, *inter alia*, that "the primary fluid channel is configured to have minimal cross-sectional dimensions such that the selective fluid drawing is not a low Reynolds number fluid flow" (emphasis added). Brody does not teach or suggest using a non-low Reynolds number fluid flow and, in fact, expressly teaches the opposite. Specifically, the entirety of Brody's disclosure is directed to a system comprising microchannels, which is defined to mean "a channel having dimensions which provide low Reynolds number operation, for which fluid dynamics are dominated by viscous forces rather than inertial forces." (Col. 3, lines 30-34) Even more explicitly, Brody states that his "switch operates in the low Reynolds number regime where fluid dynamics are dominated by viscous forces rather than inertial forces. Because of this, the microswitch of the present invention is inherently different from macroscopic devices." (Col 2, lines 12-16)

In view of Brody's express teaching that his switch is directed to low Reynolds number operation and is distinct from macroscopic devices (i.e., non-low Reynolds number fluid flow), Brody clearly does not teach or suggest any device or method comprising non-low Reynolds number fluid flow. Thus, not only does Brody fail to teach or suggest all the elements of claim 29, Applicant respectfully submit that Brody teaches away from such conditions. Therefore, Brody fails to support a prima facie case of obviousness against claim 29.

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II. Rejection under 35 U.S.C. 103(a) based on Brody in view of Heller or Feldstein

Claims 11-12 and 23-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brody as applied to claims 1-10, 21-22, 26-29 above, and further in view of U.S. Patent 5,849,486 to Heller or Mark J. Feldstein, Joel P. Golden & Frances S. Liger, *Fluorescence Array Biosensor Part 1: Optics and Fluidics*, Micro-Total Analysis Systems 98, pp. 431-434 (1998). Applicants have canceled these claims.

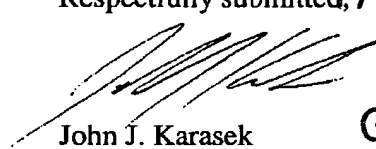
In view of the foregoing, it is respectfully submitted that this application is ready for allowance. Kindly charge any additional fees due, or credit overpayment of fees, to Deposit Account No. 50-0281.

Respectfully submitted,

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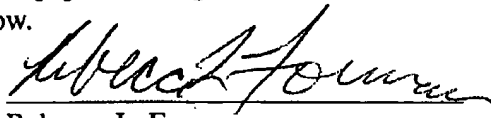

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